AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111

Serial Number: 10/739,882

Filing Date: December 18, 2003
Title: TOTAL SYNTHESIS OF DAURICHROMENIC ACID

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## **IN THE DRAWINGS**

Please replace Figure 1 with substitute Figure 1 enclosed herewith.

## **REMARKS**

Reconsideration and withdrawal of the rejections of the claims, in view of the remarks herein, is respectfully requested. Claims 5-6 and 14 are amended, and claims 24-36 are added; as a result, claims 1-16 and 18-36 are now pending in this application.

Claims 5 and 6 are amended to clarify the subject matter and the antecedent basis of  $N[(C_2-C_4)alkyl]_3$  encompassing triethylamine, and  $[(C_1-C_4)alkyl]OH$  encompassing ethanol.

Claim 14 is amended herein to correct a typographical error. It is apparent from inspection that the reactant specified should be carboxy-protected 2-methyl-4,6-dihydroxybenzoic acid, not carboxy-protected 2-methyl-4,5-dihydroxybenzoic acid.

The specification is amended to assign a unique numerical reference to the structure shown on the left side in Figure 1 and to correct the name of a compound.

A substitute Figure 1 is also enclosed herewith which adds the numerical reference number "16" to the structure shown on the left side of Figure 1.

Claims 1-16 were rejected under 35 U.S.C. § 112, first paragraph, as lacking enablement. However, the Examiner is respectfully reminded that claims 14-16 are allowed (see PTOL-326 and page 12 of the Office Action). Therefore, this section of the remarks is directed to the rejection of claims 1-13. Applicant respectfully traverses this rejection.

Claim 1 is directed to a process for the preparation of a class of compounds of formula (1) by condensation of a compound having a structure within the class defined by formula (2) with a compound having a structure within the class defined by formula (3). The claim recites that the compounds of formula (2) may be substituted with substituents Y and Z, and the compounds of formula (3) may be substituted with substituents R and X. The claim then recites that the process is claimed for the reactants wherein these four groups R, X, Y, and Z "do not interfere with the condensation." The reaction conditions are specified in the claim, namely the presence of calcium chloride, N[(C<sub>2</sub>-C<sub>4</sub>)alkyl]<sub>3</sub> ("a lower trialkylamine") and [(C<sub>1</sub>-C<sub>4</sub>)alkyl]OH ("a lower alcohol") under microwave irradiation.

It is respectfully submitted that the knowledge of what substituents would not interfere with the reaction using the reagents and under the conditions recited, would be within the knowledge of a person of ordinary skill in the art of organic synthesis. The Examiner concedes at page 3 of the Office Action that the level of skill in the art is high. Thus, a person of ordinary

skill, using the knowledge within his or her possession, would recognize that certain groups would be expected to react in an undesired manner with the reagents and catalysts, whereas other groups would not. For example, a person of ordinary skill would recognize based on his or her knowledge that an alkyl substituent at positions R, X, Y, or Z would be unreactive under the conditions specified in claim 1, and therefore would be a suitable derivative.

Even if, assuming for the sake of argument, one of ordinary skill in the art was unclear as to what substituents in the reactants might successfully bear under the reaction conditions, Applicant's specification provides a working example. That example provides the requisite predictability.

With respect to the "undue experimentation" alleged by the Examiner, the Examiner simply cannot reasonably contend that a screening program to identify a reactant with specific physical properties would not be carried out by the art because the results cannot be predicted in advance. In fact, practitioners in the art in possession of the present application would be well equipped to prepare and screen compounds within the scope of formula (2) and formula (3) to identify those that do not interfere with condensation of those compounds.

Finally, it is unclear to Applicant's Representatives how the specification can be enabling for the preparation of compounds of formula 1 (see the Examiner's statement on page 5 of the Office Action) but not enabling for the reactants themselves.

Therefore, Applicant's specification enables claims 1-13. Accordingly, withdrawal of the the 35 U.S.C. §112(1) enablement rejection of claims 1-16 is respectfully requested.

Claims 18-20 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement and enablement requirement as the specification did not describe or enable any dyestuff, or antibacterial or herbicidal composition or use. Claims 18-23 were also rejected as reciting an intended use which is allegedly not adequately described or enabled, and so does not meet the requirements of 35 U.S.C. § 112, first paragraph. The Examiner is requested to note that claims 21-22 ultimately depend on claim 1 and the Examiner acknowledges that the specification enables the preparation of compounds of formula 1 (see page 5 of the Office Action). Thus, the rejection applies to claims 18-20 and 23. These rejections are respectfully traversed.

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The Examiner has the initial burden to establish a reasonable basis to question enablement. In re Wright, 909 F.2d 1552, 1562, 27 U.S.P.Q.2d 1510, 1513 (Fed. Cir. 1993); M.P.E.P. 2164.04. The Examiner must provide specific technical reasons to fulfill this burden. M.P.E.P. 2164.04.

Applicant's Representatives respectfully submit that the Examiner, by providing only perfunctory, unsubstantiated conclusions (for example, "[t]he state of the art and level of ordinary skill on the art would not predict the same use for all of these products", and "[u]ndue experimentation would be necessary to determine the recited uses"; see page 6 of the Office Action), has not met that burden.

Moreover, with respect to the "undue experimentation" alleged by the Examiner for claims 18-20, the Examiner simply cannot reasonably contend that it would be an undue burden for one of skill in the art to screen 7 specific compounds for activity.

With respect to the rejection of claim 23, the Examiner and other U.S. Patent and Trademark Office personnel failed to provide the supporting documents cited at page 12 of the Office Action to Applicant's Representatives. As described in the enclosed Rule 132 Declaration executed by Candis Buending, Applicant's Representatives contacted at least three different individuals at the U.S. Patent and Trademark Office over a period of about two and one half months in an attempt to obtain a copy of the supporting documents.

It is Applicant's Representatives position that the burden to supply documents cited by U.S. Patent and Trademark Office is that of the U.S. Patent and Trademark Office, particularly in view of the incomplete nature of the citations. Applicant's Representatives respectfully request that a complete copy of those documents be forwarded to Applicant's Representatives with the next official communication.

Thus, withdrawal of the 35 U.S.C. § 112, first paragraph, rejections is respectfully requested.

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## **CONCLUSION**

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6959 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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By their Representatives,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this \_\_3rd\_\_ day of February, 2006.

PATRICIA A. HULTMAN

Signature

Name